

Section 7.1

Weft Cutter

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7. WEFT CUTTER

7.1 Weft Cutter

A cutter assy is provided on either side of the loom (Fig.7.1-1).

The movable blade of the LH cutter is driven by the cam attached to the leno drive gear of the LH frame. The movable blade of the RH cutter is driven by the cam attached to the shedding crank shaft of the RH frame.

The LH cutter cuts each weft when it is inserted. Meanwhile, the RH cutter lets the yarn end processing system grip the inserted weft and cuts each weft with several picks left uncut.

No.	Part name	No.	Part name
1	LH cutter assy	5	LH cutter cam
2	RH cutter assy	6	RH cutter cam
3	Rocking shaft	7	LH cutter drive rod
4	Cutter link lever	8	RH cutter drive rod

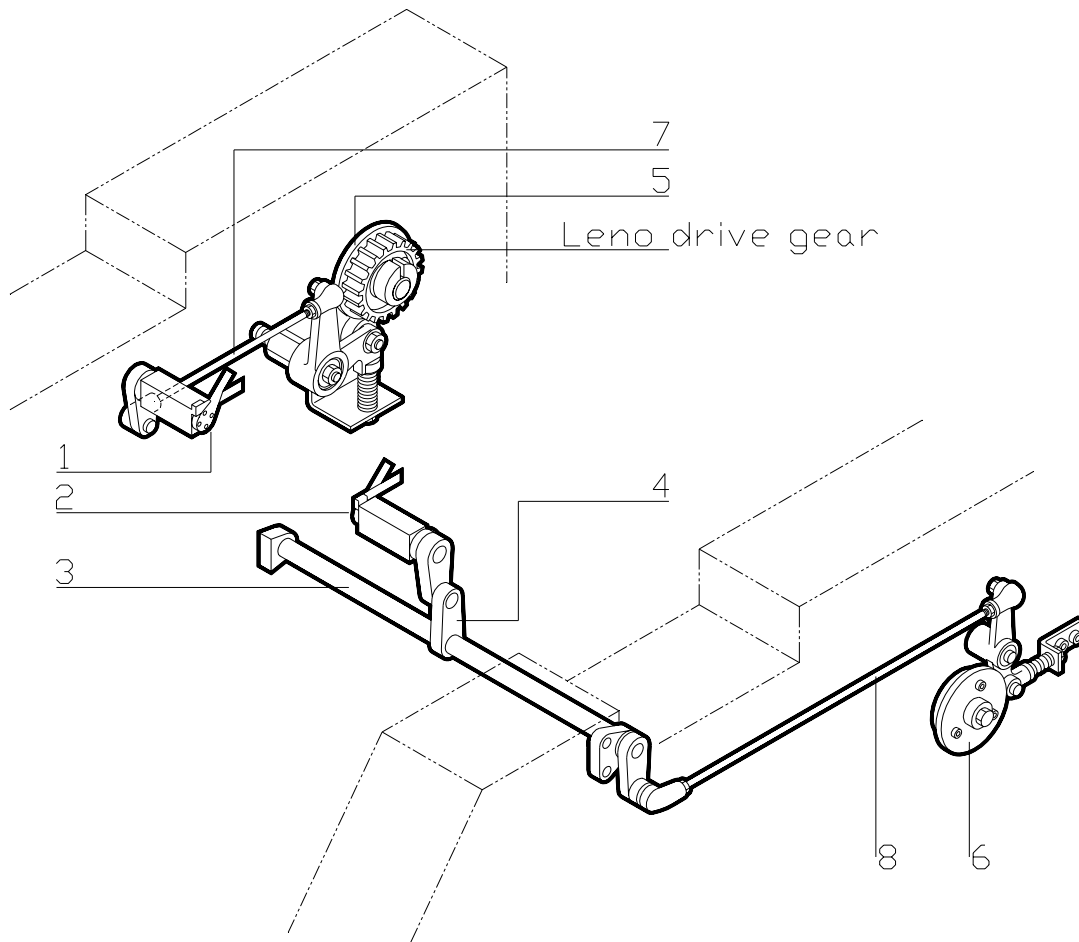


Fig. 7.1-1 Outline of device

7.1.1 Adjustment of Cutter

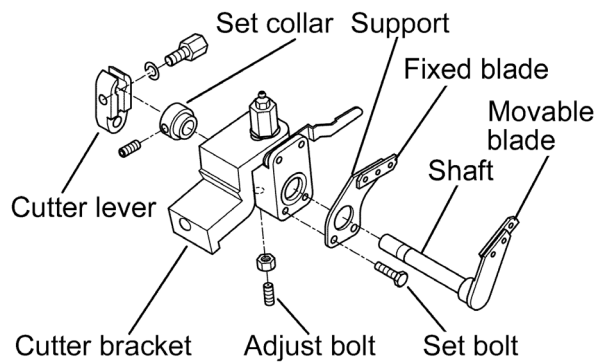


Fig. 7.1-2

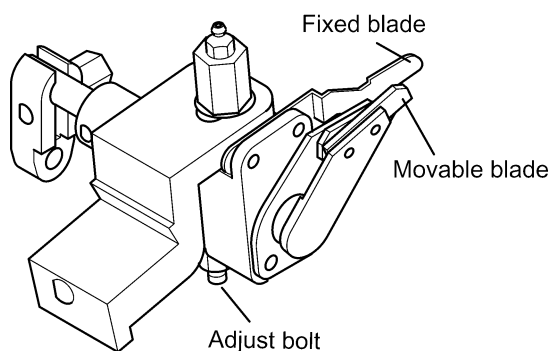
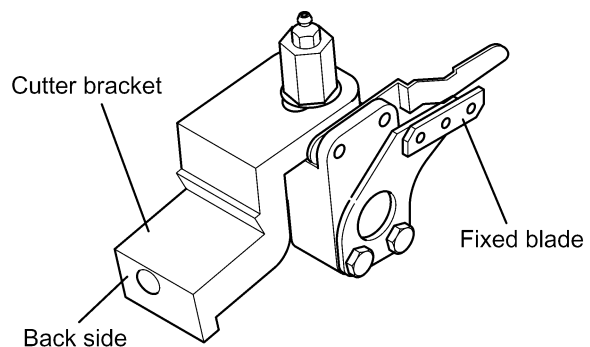
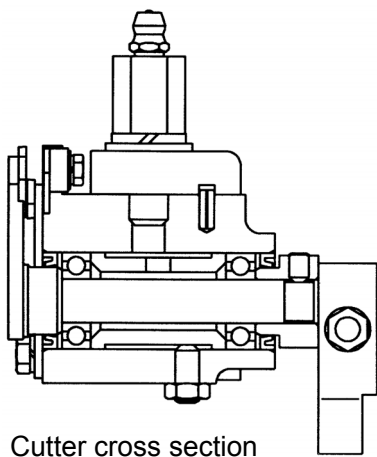


Fig. 7.1-3

[1] Adjustment of Cutter Blade Pressure

(1) Disassembly

- 1) Loosen set bolt of cutter lever and remove them.
- 2) Remove set collar.
- 3) Loosen adjust bolt.
- 4) Drawn out movable blade toward inside of the loom.
- 5) Fixed blade can be removed by taking off the set bolt.
- 6) When removing the fixed blade and movable blade from the support and recess of M2 countersunk head screw. (If damaged, the blades cannot be assembled).

(2) Assembly

When assembling the fixed blade and movable blade to the support and shaft, apply LOCKTITE (screw lock) to the countersunk head screw and tighten it with a 0.22 N·m (2.2 kgf·cm).

1) Fixed blade

Combine the center of hole of cutter bracket and fixed blade, and assemble fixed blade setting the back face in parallel.

2) Change of movable blade

Insert new movable blade and tighten set bolt of set collar as there is no gap between movable blade and fixed blade.

(3) Adjustment

1) Clearance between movable and fixed blades

Overlap the tips of the movable and fixed blades, and tighten the adjusting bolt after checking the clearance between their roots is 0.02 to 0.04 mm.

If this adjustment is improper, the service life of the movable and fixed blades will be shortened greatly.

Caution: Never bend the LH and RH supports of the fixed cutter blade with pliers, etc. Otherwise, early blade chipping not to be covered by warranty may occur.

7. WEFT CUTTER

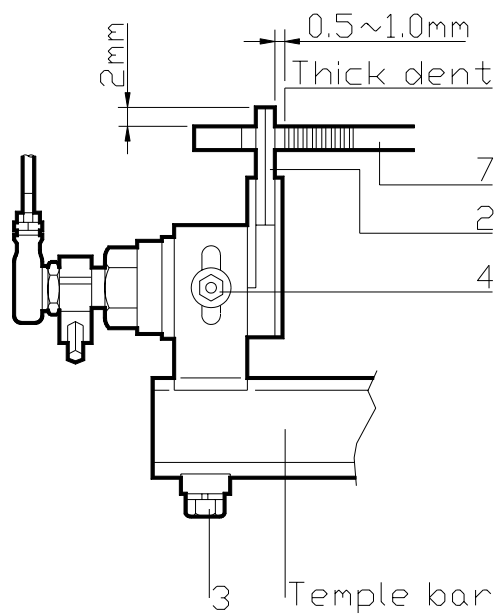
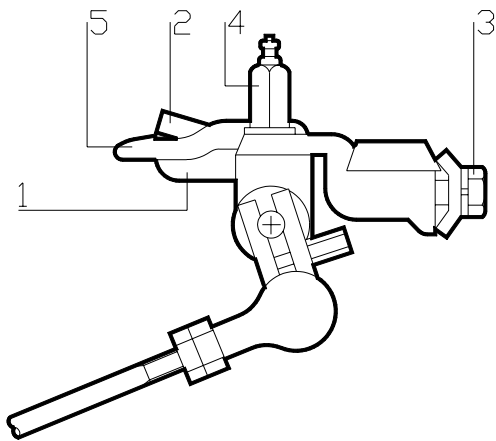


Fig. 7.1-4

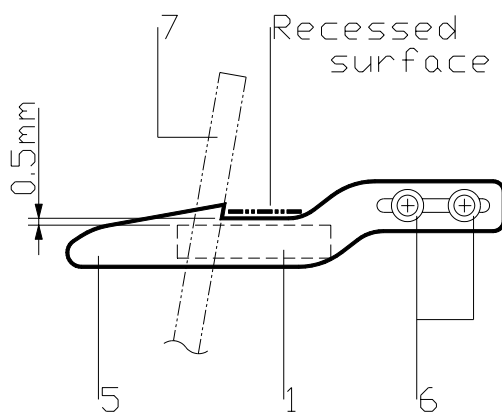


Fig. 7.1-5

[2] Adjustment of LH Cutter

(1) Position, right and left

Adjust the cutter position with the bolt "3" so that the cutter blades are inside the reed window and the clearance between the movable blade "2" and the thick dent is 0.5 - 1.0mm (Fig.7.1-4).

Caution: Make adjustment so that neither movable blade "2" nor fixed blade comes into contact with reed "7" that moves back and forth.

(2) Position, front and rear

Adjust the position with the bolt "4"(Fig.7.1-4).

- 1) Set the timing wheel at 0°(most advanced position of reed).
- 2) Adjust the cutter position with the bolt "4" so that the blade ends protrude 2mm from the reed.

(3) Cutter guide

<Fig.7.1-5>

- 1) Temporarily set the cutter guide "5" with screws "6" so that the recessed surface of the cutter guide is 0.5mm high from the upper edge of the fixed blade "1".
- 2) Set the guide "5" with screws "6" so that the hook surface of the guide "5" is in line with the front face of the reed as illustrated when the reed is at the foremost position.

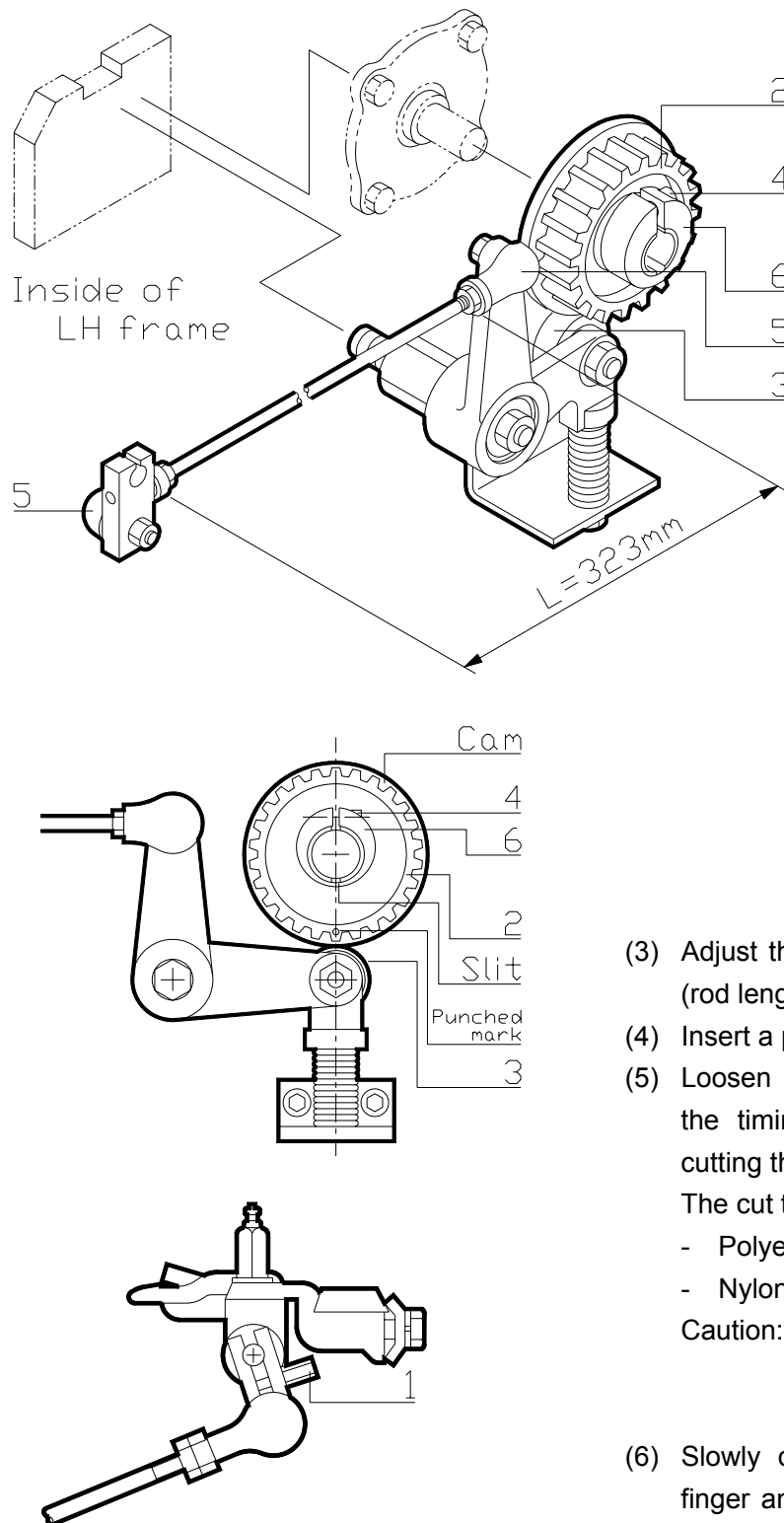


Fig. 7.1-6

[3] LH Cut Timing

Adjust the cut timing on the LH cutter only(Fig.7.1-6).

- (1) Manually turn the timing wheel to 35° (45° when the nozzle plate is installed)
- (2) Loosen the bolt "4", set the punched mark of the leno drive gear "2" at the top of the bearing "3", and tighten the bolt "4" to fix the leno drive gear "2".

Caution: When fixing the leno drive gear "2", tighten the bolt "4" after matching the slit of the leno drive gear "2" and that of the collar "6". Adjust the cut timing before adjusting the leno motion.

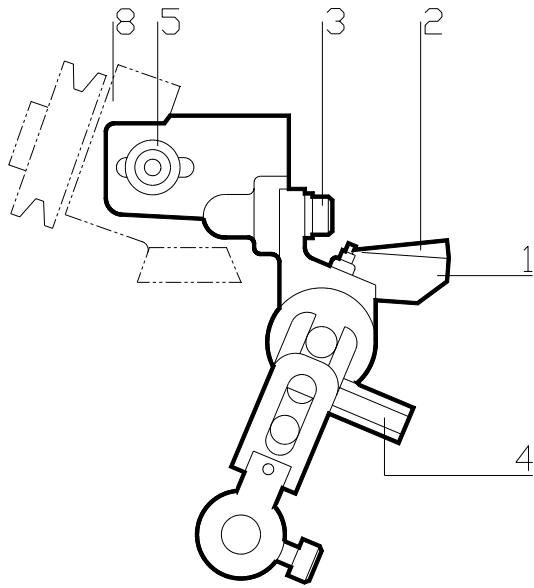
- (3) Adjust the distance between rod ends "5" (rod length) to 323mm.
- (4) Insert a pick of filling.
- (5) Loosen the cutter lever bolt "1" and turn the timing wheel the angle desired for cutting the filling.

The cut timing as follows.

- Polyester yarn $15^\circ \pm 5^\circ$
- Nylon yarn $10^\circ \pm 5^\circ$

Caution: When the nozzle plate is installed:
 $25^\circ \pm 5^\circ$ both for polyester and nylon

- (6) Slowly close the movable blade with a finger and tighten bolt "1" when the filling is cut.
- (7) Insert a pick of filling again and turn the timing wheel with hands to see that the filling is cut off at the set angle.



[4] Adjustment of RH Cutter

The RH cutter is attached to the CC spindle bracket "8" (Fig.7.1-7).

(1) Position, right and left

- 1) Adjust the clearance between the cutter blade arm "2" and the temple to 1mm with the bolt "3".
- 2) Adjust the distance between the fixed blade "1" and the CC guide plate to 25 - 30mm with the bolt "7".

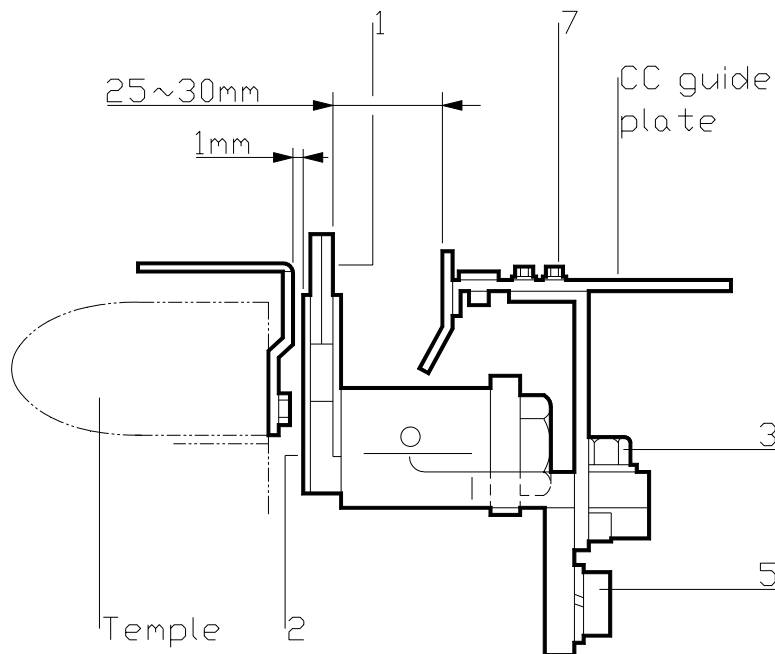


Fig. 7.1-7

(2) Position, up and down

- 1) Set the timing wheel at 0°.

Caution: Do not allow the movable blade to come into contact with the temple. If in contact, the high contact pressure will cause the blade to wear early.

- 2) Adjust the cutter position with the bolt "5" so that the clearance between the most advanced reed and the cutter blade end is 2mm. (If the clearance is too small, the cutter blade will damage the advancing reed.)
- 3) Adjust by turning the bolt "5" the tip end height of the fixed blade "1" at 0.5 to 1.0 mm below the warp line (remaining weft yarn).

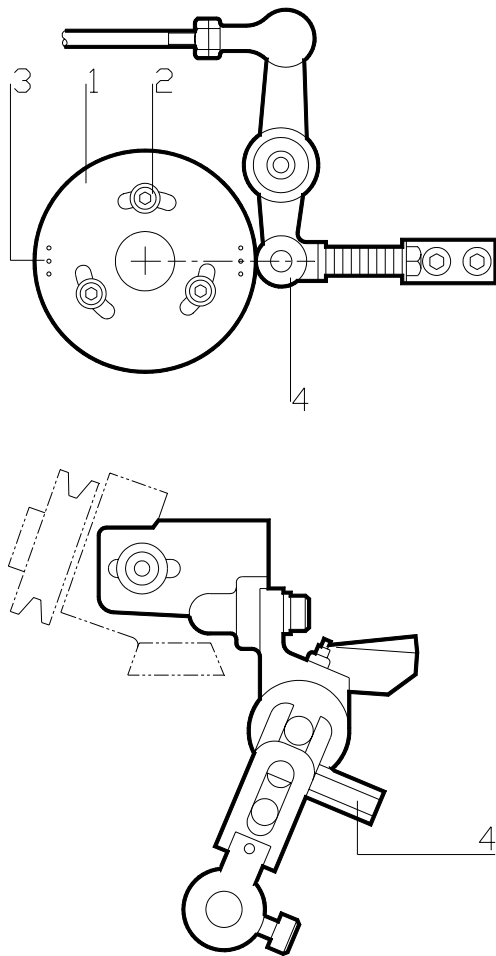


Fig. 7.1-8

[5] Relation between Overlap Amount of RH Cutter Blades and Cutter Cam

<Fig.7.1-8>

- (1) Turn the timing wheel to 35°.
- (2) Loosen the three bolts "2", set the middle punched mark "3" of the cutter cam "1" in line with the cam follower "4", and tighten the three bolts "2" to fix the cutter cam "1".
- (3) Adjust the overlap amount between the ends of the cutter blades to 1 mm by turning the bolt "4". (Then, the cut timing is about 15°.)
- (4) Number of remaining yarns after cutting
Run the loom to insert fillings. When the number of remaining yarns after cutting is too large or too small, increase or decrease the overlap amount of blade ends respectively.
The standard number of remaining yarns after cutting is 4 - 5.

